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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648-XF118

Takes of Marine Mammals Incidental to Specified Activities; Gull Monitoring and Research in Glacier Bay National Park, Alaska, 2017

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice; proposed incidental harassment authorization; request for comments.

SUMMARY: NMFS has received an application from the National Park Service (NPS) at Glacier Bay National Park (Glacier Bay NP) for an Incidental Harassment Authorization (IHA) to take marine mammals, by harassment, incidental to conducting proposed gull monitoring and research activities within Glacier Bay NP from May through September, 2017. Pursuant to the Marine Mammal Protection Act (MMPA), NMFS is requesting comments on its proposal to issue an IHA to the NPS at Glacier Bay NP to incidentally take marine mammals during the specified activities.

DATES: Comments and information must be received no later than [*insert date 30 days after date of publication in the FEDERAL REGISTER*].

ADDRESSES: Submit your comments on the application by either of the following methods:

Mail: Jolie Harrison, Chief, Permits and Conservation Division, Office of Protected Resources, NMFS, 1315 East-West Highway, Silver Spring, MD 20910.

Electronic: Comments should be sent to *ITP.Egger@noaa.gov*.

Instructions: NMFS is not responsible for comments sent by any other method, to any other address or individual, or received after the end of the comment period.

Comments received electronically, including all attachments, must not exceed a 25-megabyte file size. Attachments to electronic comments will be accepted in Microsoft Word or Excel or Adobe PDF file formats only. All comments received are a part of the public record and will generally be posted online at

<http://www.nmfs.noaa.gov/pr/permits/incidental/research.htm> without change. All personal identifying information (*e.g.*, name, address), confidential business information or otherwise sensitive or protected information submitted voluntarily by the commenter is publicly accessible. NMFS will accept anonymous comments (note this in the correspondence if you wish to remain anonymous).

FOR FURTHER INFORMATION CONTACT: Stephanie Egger, Office of Protected Resources, NMFS, (301) 427-8401. Electronic copies of the applications and supporting documents, as well as a list of the references cited in this document, may be obtained online at: <http://www.nmfs.noaa.gov/pr/permits/incidental/research.htm>. In case of problems accessing these documents, please call the contact listed above.

SUPPLEMENTARY INFORMATION:

Background

Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 et seq.) direct the Secretary of Commerce to allow, upon request by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified area, the incidental, but not intentional, taking of small numbers of marine mammals, provided that certain findings

are made and the necessary prescriptions are established.

The incidental taking of small numbers of marine mammals shall be allowed if NMFS (through authority delegated by the Secretary) finds that the total taking by the specified activity during the specified time period will (i) have a negligible impact on the species or stock(s) and (ii) not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses (where relevant). Further, the permissible methods of taking, as well as the other means of effecting the least practicable adverse impact on the species or stock and its habitat (*i.e.*, mitigation) must be prescribed. Last, requirements pertaining to the monitoring and reporting of such taking must be set forth.

Where there is the potential for serious injury or death, the allowance of incidental taking requires promulgation of regulations under section 101(a)(5)(A). Subsequently, a Letter (or Letters) of Authorization may be issued as governed by the prescriptions established in such regulations, provided that the level of taking will be consistent with the findings made for the total taking allowable under the specific regulations. Under section 101(a)(5)(D), NMFS may authorize incidental taking by harassment only (*i.e.*, no serious injury or mortality), for periods of not more than one year, pursuant to requirements and conditions contained within an IHA. The promulgation of regulations or issuance of IHAs (with their associated prescribed mitigation, monitoring, and reporting) requires notice and opportunity for public comment.

NMFS has defined “negligible impact” in 50 CFR 216.103 as “...an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, we adversely affect the species or stock through effects on annual rates of recruitment or survival.”

NMFS has defined “unmitigable adverse impact” in 50 CFR 216.103 as “...an impact resulting from the specified activity:

- 1) That is likely to reduce the availability of the species to a level insufficient for a harvest to meet subsistence needs by: (i) causing the marine mammals to abandon or avoid hunting areas; (ii) directly displacing subsistence users; or (iii) placing physical barriers between the marine mammals and the subsistence hunters; and
- 2) That cannot be sufficiently mitigated by other measures to increase the availability of marine mammals to allow subsistence needs to be met.

Except with respect to certain activities not pertinent here, section 3(18) of the MMPA defines "harassment" as: any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment).

Summary of Request

On November 22, 2016, NMFS received an application from Glacier Bay NP requesting taking by harassment of marine mammals, incidental to conducting monitoring and research studies on glaucous-winged gulls (*Larus glaucescens*) within Glacier Bay NP, Alaska. The application was considered adequate and complete on February 10, 2017. NMFS previously issued three IHAs to Glacier Bay NP for the same activities from 2014 to 2016 (79 FR 56065, September 18, 2014; 80 FR 28229, May 18, 2015; 81 FR 34994, May 16, 2016).

For the 2017 research season, Glacier Bay NP again proposes to conduct ground-based and vessel-based surveys to collect data on the number and distribution of nesting gulls within six study sites in Glacier Bay, AK. Marine mammals have only been observed at four of the six study sites. The proposed activities would occur over the course of five months, from May through September, 2017.

The following aspects of the proposed gull research activities have the potential to take marine mammals: noise generated by motorboat approaches and departures; noise generated by researchers while conducting ground surveys; and human presence (visual disturbance) during the monitoring and research activities. Harbor seals hauled out at the study sites may flush into the water or exhibit temporary modification in behavior (Level B harassment). Thus, Glacier Bay NP has requested an authorization to take harbor seals by Level B harassment only. Although Steller sea lions (*Eumetopias jubatus*) may be present in the action area, Glacier Bay NP has proposed to avoid any site used by Steller sea lions.

Description of the Specified Activity

Overview

Glacier Bay NP proposes to identify the onset of gull nesting; conduct mid-season surveys of adult gulls, and locate and document gull nest sites within the following study areas: Boulder, Lone, and Flapjack Islands, and Geikie Rock. Each of these study sites contains harbor seal haulout sites and Glacier Bay NP proposes to visit each study site up to five times during the research season. Glacier Bay NP also proposes to conduct studies at South Marble Island and Tlingit Point Islet; however, there are no reported pinniped haulouts at those locations.

Glacier Bay NP must conduct the gull monitoring studies to meet the requirements of a 2010 Record of Decision for a Legislative Environmental Impact Statement (LEIS) (NPS, 2010) which states that Glacier Bay NP must initiate a monitoring program for the gulls to inform future native egg harvests by the Hoonah Tlingit in Glacier Bay, AK. Glacier Bay NP also actively monitors harbor seals at breeding and molting sites to assess population trends over time (*e.g.*, Mathews & Pendleton, 2006; Womble *et al.*, 2010). Glacier Bay NP coordinates pinniped monitoring programs with NMFS' Alaska Fisheries Science Center and the Alaska Department of Fish and Game and plans to continue these collaborations and sharing of monitoring data and observations in the future.

Dates and Duration

From May 1 through September 30, 2017, Glacier Bay NP proposes to conduct a maximum of three ground-based surveys per each study site and a maximum of two vessel-based surveys per each study site. Duration of surveys would be 30 minutes (min) to two hours (hr) each.

Specified Geographic Region

The proposed study sites would occur in the vicinity of the following locations: Boulder, Lone, and Flapjack Islands, and Geikie Rock in Glacier Bay, Alaska. Glacier Bay NP will also conduct studies at South Marble Island and Tlingit Point Islet (see Figure 1); however, there are no reported pinniped haulout sites at those locations.

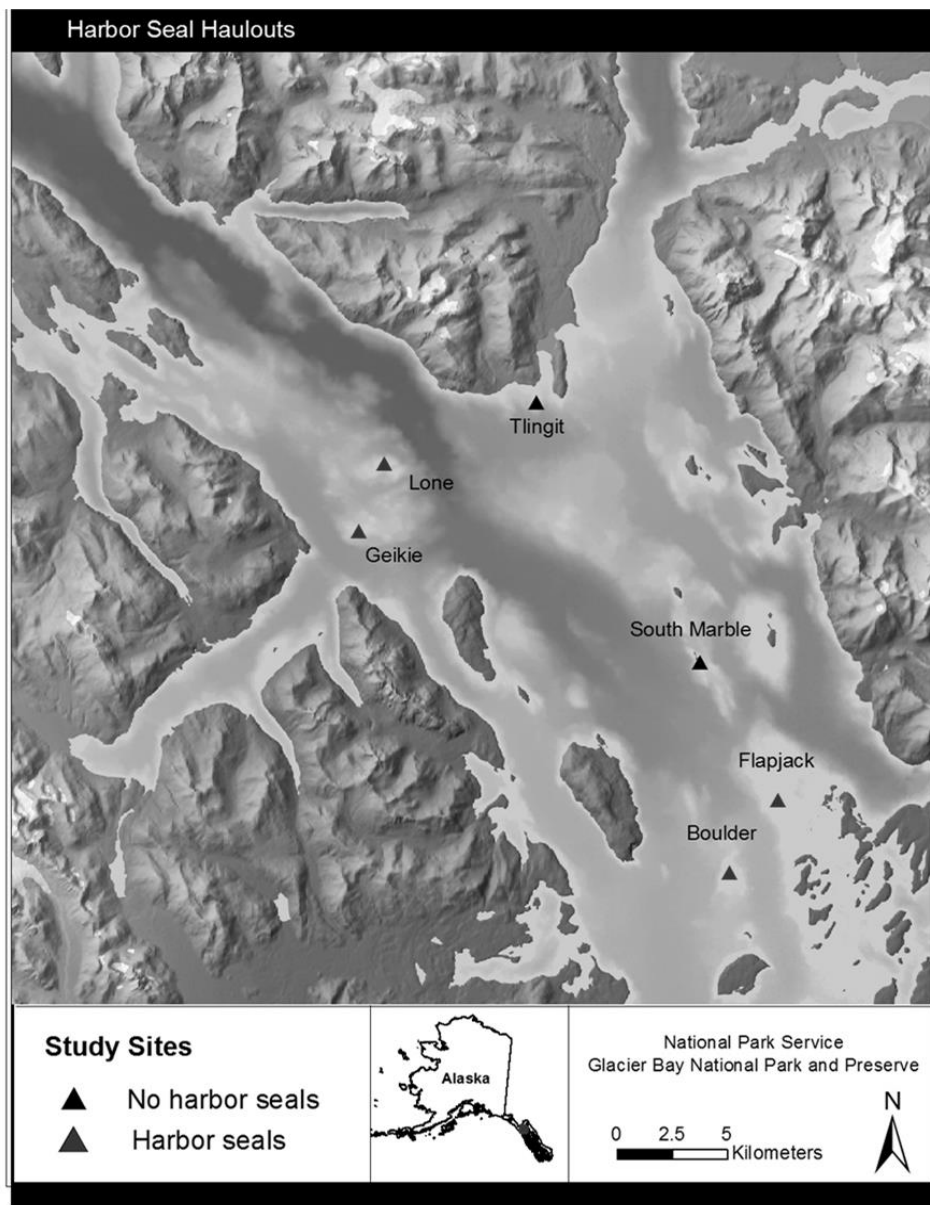


Figure 1. Proposed locations of the gull monitoring and research sites in Glacier Bay, AK, May through September, 2017.

Detailed Description of Activities

Glaucous-winged gulls are common inshore residents along the northwestern coast of North America (Hayward and Verbeek, 2008). These gulls nest colonially in small and large aggregations, often on islands. Glaucous-winged gulls are abundant in Southeast AK throughout the year and nest colonially on islands in Glacier Bay from mid-May to August (Patten, 1974). Traditionally the Hoonah Tlingit, whose ancestral homeland encompasses Glacier Bay NP, harvested gull eggs annually during the spring and early summer months (Hunn, 2002). This historic egg harvest in Glacier Bay was an important activity both for cultural and nutritional purposes. Legislation is currently underway (Hoonah Tlingit Traditional Gull Egg Use Act: S. 156 and H. R. 3110) to allow native subsistence harvest of glaucous-winged gulls at up to 15 locations in Glacier Bay NP. An LEIS for gull egg harvest was developed and finalized in 2010 (NPS, 2010). The LEIS Record of Decision mandates that the NPS develop a monitoring program to inform a yearly traditional harvest plan and ensure that harvest activities do not impact park purposes and values (NPS, 2010). Annual monitoring requirements outlined in the LEIS include: identify the onset of gull nesting, conduct mid-season adult counts, count number of eggs in nests during harvest, conduct complete nest surveys just before hatch on harvested islands, and document other bird and marine mammal species (pinnipeds present onshore) that may be impacted by harvest activities. Harvest sites will be selected based on several characteristics including size of colony; population parameters including productivity, population status, recent harvest, age of colony; and minimizing disturbance to other species present.

The goal of this project is to collect data on the number and distribution of nesting glaucous-winged gulls to fulfill the mandates of the LEIS Record of Decision and to inform the annual gull egg harvest. Gull monitoring will be conducted using a combination of ground and vessel surveys by landing at specific access points on the islands. Glacier Bay NP proposes to conduct: (1) ground-based surveys at a maximum frequency of three visits per site; and (2) vessel-based surveys at a maximum frequency of two visits per site from the period of May 1 through September 30, 2017. Surveys can be from 30 min to two hours.

Ground-Based Surveys: These surveys involve two trained observers conducting complete nest counts of the colonies (Zador, 2001; Arimitsu *et al.*, 2007). The survey will encompass all portions of the gull colony accessible to humans and thus represent a census of the harvestable nests. GPS locations of nests and associated vegetation along with the number of live and predated eggs will be collected during at least one visit to obtain precise nest locations to characterize nesting habitat. On subsequent surveys, nest counts will be tallied on paper so observers can move through the colony more quickly and minimize disturbance. Ground surveys will be discontinued after the first hatched chick is detected to minimize disturbance and mortalities. During ground surveys, observers will also record other bird and marine mammal species in proximity to colonies.

The observers would access each island using a kayak, a 32.8 to 39.4-foot (ft) (10 to 12 meter (m)) motorboat, or a 12 ft (4 m) inflatable rowing dinghy. The landing craft's transit speed would not exceed 4 knots (kn) (4.6 miles per hour (mph)). Ground surveys

generally last 30 min to two hrs each depending on the size of the island and the number of nesting gulls.

Vessel-Based Surveys: Surveys will be conducted from the deck of a motorized vessel and will be used to count the number of adult and fledgling gulls that are visible from the water (Zador, 2001; Arimitsu *et al.*, 2007). Vessel surveys provide more reliable estimate of the numbers of gulls in the colony than ground surveys because NPS can count nesting birds in areas that are inaccessible by foot and because the birds do not flush from the researchers presence. Glacier Bay NP would conduct these surveys by circling the islands at approximately 100 m and counting the number of adult and chick gulls as well as other bird and mammal species present. Surveys can be from 30 min to two hrs in duration.

Proposed mitigation, monitoring, and reporting measures are described in detail later in the document (Mitigation section and Monitoring and Reporting section).

Description of Marine Mammals in the Area of the Specified Activity

Sections 3 and 4 of the NPS' application and the 2015 and 2016 monitoring reports contain detailed information on the abundance, status, and distribution of the species at the study sites from ground and vessel surveys that NPS has conducted as well as information from harbor seal monitoring aerial surveys conducted between 2007-2015 (Womble unpublished data). This information is summarized below and may be viewed in detail at <http://www.nmfs.noaa.gov/pr/permits/incidental/research.htm>. Additional species information is available in the NMFS SARs for Alaska at <http://www.nmfs.noaa.gov/pr/sars/region.htm>.

Marine mammals under NMFS' jurisdiction that occur in the vicinity of the study sites in Glacier Bay NP include the harbor seal and Steller sea lion (Table 1). Both are protected under the MMPA and the Steller sea lion is listed as endangered (Western Distinct Population Segment) under the Endangered Species Act (ESA). Northern sea otters (Southeast Alaska stock) (*Enhydra lutris kenyoni*) are protected by the MMPA and could occur in the project area. The U.S. Fish and Wildlife Service manages Northern sea otters and are therefore are not discussed further in this proposed authorization.

Table 1. General information on marine mammals that could potentially haul out in the proposed study areas in Glacier Bay, Alaska, May through September 2017.

Species	Scientific Name	Stock Name	Regulatory Status ^{1,2}	Occurrence and Range	Season
Harbor seal	(<i>Phoca vitulina</i>)	Glacier Bay / Icy Strait	MMPA - NC ESA - NL	common coastal	year-round
Steller sea lion	(<i>Eumetopias jubatus</i>)	Eastern U.S.	MMPA - D, S ESA - DL	uncommon coastal	year-round
Steller sea lion	(<i>Eumetopias jubatus</i>)	Western U.S.	MMPA - D, S ESA - E	uncommon coastal	unknown

¹ MMPA: D = Depleted, S = Strategic, NC = Not Classified.

² ESA: E = Endangered, T = Threatened, DL = Delisted, NL = Not listed.

³ 2015 NMFS Stock Assessment Report (Muto *et al.*, 2015).

Harbor Seals

Harbor seals are the most abundant marine mammal species found within the action area and present year-round. Harbor seals range from Baja California north along the west coasts of Washington, Oregon, California, British Columbia, and Southeast Alaska; west through the Gulf of Alaska, Prince William Sound, and the Aleutian Islands; and north in the Bering Sea to Cape Newenham and the Pribilof Islands. The current statewide abundance estimate for Alaskan harbor seals is 205,090 (Boveng *et al.* in press as cited in Muto *et al.*, 2015), based on aerial survey data collected during 1998-2011. In 2010, harbor seals in Alaska were partitioned into 12 separate stocks based

largely on genetic structure (Allen and Angliss, 2010). Harbor seals have declined dramatically in some parts of their range over the past few decades, while in other parts their numbers have increased or remained stable over similar time periods.

Harbor seals haul out on rocks, reefs, beaches, and drifting glacial ice (Allen and Angliss, 2014). They are non-migratory; their local movements are associated with tides, weather, season, food availability, and reproduction, as well as sex and age class (Allen and Angliss, 2014; Boveng *et al.*, 2012; Lowry *et al.*, 2001; Swain *et al.*, 1996). Pupping in Alaska generally takes place in May and June; while molting generally occurs from June to October.

Harbor seals of Glacier Bay are considered part of the Glacier Bay/Icy Strait stock (Table 2) – ranging from Cape Fairweather southeast to Column Point, extending inland to Glacier Bay, Icy Strait, and from Hanus Reef south to Tenakee Inlet (Muto *et al.*, 2015). The Glacier Bay/Icy Strait stock showed a negative population trend estimate for harbor seals from 1992 to 2008 in June and August for glacial (-7.7 percent /yr; -8.2 percent/yr) and terrestrial sites (-12.4 percent/yr, August only) (Womble *et al.*, 2010 as cited in Muto *et al.*, 2015). Trend estimates by Mathews and Pendleton (2006) were similarly negative for both glacial and terrestrial sites. Long-term monitoring of harbor seals on glacial ice has occurred in Glacier Bay since the 1970s (Mathews and Pendleton, 2006) and has shown this area to support one of the largest breeding aggregations in AK (Steveler, 1979; Calambokidis *et al.*, 1987 as cited in Muto *et al.*, 2015). After a dramatic retreat of Muir Glacier (more than 7 km), in the East Arm of Glacier Bay, between 1973 and 1986 and the subsequent grounding and cessation of calving in 1993, floating glacial ice was greatly reduced as a haul-out substrate for harbor seals and ultimately resulted in

the abandonment of upper Muir Inlet by harbor seals (Calambokidis *et al.*, 1987; Hall *et al.*, 1995; Mathews, 1995 as cited in Muto *et al.*, 2015). Prior to 1993, seal counts were up to 1,347 in the East Arm of Glacier Bay; 2008 counts were fewer than 200 (Streveler, 1979; Molnia, 2007 as cited in Muto *et al.*, 2015). The current (2007–2011) estimate of the Glacier Bay/Icy Strait population trend is +179 seals per year, with a probability that the stock is decreasing of 0.40 (Muto *et al.*, 2015).

Table 2. Harbor Seal Status Information.

Species	Stock	ES)/MMP A status; Strategic (Y/N) ¹	Stock abundance (N _{min} , most recent abundance survey) ²	PBR ³	Annual M/SI ⁴	Relative occurrence/season of occurrence
Harbor seal	Glacier Bay/Icy Strait (Alaska)	-; N	7,210 (5,647; 2011)	169	104	Harbor seals are year- round inhabitants of Glacier Bay, Alaska

¹Endangered Species Act (ESA) status: Endangered (E), Threatened (T)/MMPA status: Depleted (D). A dash (-) indicates that the species is not listed under the ESA or designated as depleted under the MMPA. Under the MMPA, a strategic stock is one for which the level of direct human-caused mortality exceeds PBR (see footnote 3) or which is determined to be declining and likely to be listed under the ESA within the foreseeable future. Any species or stock listed under the ESA is automatically designated under the MMPA as depleted and as a strategic stock.

²N_{min} is the minimum estimate of stock abundance. The most recent abundance survey that is reflected in the abundance estimate is presented; there may be more recent surveys that have not yet been incorporated into the estimate.

³Potential biological removal, defined by the MMPA as the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population size (OSP).

⁴These values, found in NMFS' SARs, represent annual levels of human-caused mortality plus serious injury from all sources combined (*e.g.*, commercial fisheries, subsistence hunting, ship strike). Annual M/SI often cannot be determined precisely and is in some cases presented as a minimum value. All values presented here are from the final 2015 Harbor Seal, Alaska SAR. (http://www.nmfs.noaa.gov/pr/sars/pdf/stocks/alaska/2015/ak2015_sehr.pdf).

Harbor seals from the Glacier Bay/Icy Strait stock can be found hauled-out at four of the gull monitoring study sites (Table 3). Seal counts from gull monitoring surveys likely represent a minimum estimate due to difficulty observing marine mammals from a vessel. Counts from gull monitoring surveys are also conducted during high tide so fewer seals may be present.

Table 3. Number of harbor seals observed and flushed from haul out (Level B harassment) under IHAs at gull study sites from 2015 and 2016 in Glacier Bay, Alaska.

Site Name	Latitude (dd)	Longitude (dd)	2015 Observed/Flushed	2016 Observed/Flushed
Boulder	58.55535	-136.01814	13/11	21/0
Flapjack	58.58698	-135.98251	0/0	101/41
Geikie	58.69402	-136.31291	45/14	37/0
Lone	58.72102	-136.29470	98/32	58/36
TOTAL			156/57	217/77

Steller sea lions

It was determined that take will not occur for Steller sea lions based on survey data available. A total of five Steller sea lions have been observed during the 2015 and 2016 survey seasons, but were observed outside the study area. Although Steller sea lions may be present in the action area, Glacier Bay NP has proposed to avoid any sites used by Steller sea lions. Therefore, Steller sea lions are not discussed further in this proposed authorization.

The only marine mammals anticipated to be affected by the specified activities and proposed as take for Level B harassment are harbor seals hauled out at the study sites in Glacier Bay and therefore they are the only marine mammal discussed further in this proposed authorization.

Potential Effects of the Specified Activities on Marine Mammals and Their Habitat

This section includes a summary and discussion of the ways that components of the specified activity may impact marine mammals and their habitat. The “Estimated Take” section later in this document will include a quantitative analysis of the number of individuals that are expected to be taken by this activity. The “Negligible Impact

Analysis and Determination” section will consider the content of this section, the “Estimated Take by Incidental Harassment” section, and the “Proposed Mitigation” section, to draw conclusions regarding the likely impacts of these activities on the reproductive success or survivorship of individuals and how those impacts on individuals are likely to impact marine mammal species or stocks.

In the following discussion, we provide general background information on sound and marine mammal hearing. Acoustic and visual stimuli generated by: (1) motorboat operations; and (2) the appearance of researchers may have the potential to cause Level B harassment of any pinnipeds hauled out on Boulder, Lone, and Flapjack Islands, and Geikie Rock.

Human Disturbance

Harbor seals may potentially experience behavioral disruption rising to the level of harassment from monitoring and research activities, which may include airborne noise during the brief periods from research vessels and visual disturbance due to the presence and activity of the researchers on land. Disturbed seals are likely to experience any or all of these stimuli, and take may occur due to any of these in isolation or in combination with the others. Due to the likely constant combination of visual and acoustic stimuli resulting from the presence and vessels and researchers, we assume that harbor seals present may be disturbed and do not consider acoustic effects separately from the effects of potential disturbance due to visual stimuli.

Visual stimuli due to the presence of research activities during the project have the potential to result in take of harbor seals at nearby haul out sites through behavioral disturbance. Harbor seals can exhibit a behavioral response to visual stimuli (*e.g.*,

including alert behavior, movement, vocalizing, or flushing). NMFS does not consider the lesser reactions (*e.g.*, alert behavior) to constitute harassment. Upon the occurrence of low-severity disturbance (*i.e.*, the approach of a vessel or person as opposed to an explosion or sonic boom), pinnipeds typically exhibit a continuum of responses, beginning with alert movements (*e.g.*, raising the head), which may then escalate to movement away from the stimulus and possible flushing into the water. Flushed pinnipeds typically re-occupy the haul out within minutes to hours of the stimulus (Allen *et al.* 1984 (Johnson and Acevedo-Gutierrez, 2007)).

Disturbances resulting from human activity can impact short- and long-term pinniped haul out behavior (Renouf *et al.*, 1981; Schneider and Payne, 1983; Terhune and Almon, 1983; Allen *et al.*, 1984; Stewart, 1984; Suryan and Harvey, 1999; Mortenson *et al.*, 2000; and Kucey and Trites, 2006). Disturbance includes a variety of effects, including subtle to conspicuous changes in behavior, movement, and displacement. Reactions to sound, if any, depend on species, state of maturity, experience, current activity, reproductive state, time of day, and many other factors (Richardson *et al.*, 1995; Wartzok *et al.*, 2004; Southall *et al.*, 2007; Weilgart, 2007). These behavioral reactions from marine mammals are often shown as: changing durations of surfacing and dives, or moving direction and/or speed; reduced/increased vocal activities; changing/cessation of certain behavioral activities (such as socializing or feeding); visible startle response or aggressive behavior; avoidance of areas; and/or flight responses (*e.g.*, pinnipeds flushing into the water from haul outs or rookeries). If a marine mammal does react briefly to human presence by changing its behavior or moving a small distance, the impacts of the change are unlikely to be significant to the individual, let alone the stock or population.

However, if visual stimuli from human presence displaces marine mammals from an important feeding or breeding area for a prolonged period, impacts on individuals and populations could be significant (*e.g.*, Lusseau and Bejder 2007; Weilgart, 2007).

Numerous studies have shown that human activity can flush pinnipeds off haul-out sites and beaches (Kenyon, 1972; Allen *et al.*, 1984; Calambokidis *et al.*, 1991; Suryan and Harvey, 1999; and Mortenson *et al.*, 2000). In 1997, Henry and Hammil (2001) conducted a study to measure the impacts of small boats (*i.e.*, kayaks, canoes, motorboats and sailboats) on harbor seal haul-out behavior in Métis Bay, Quebec, Canada. During that study, the authors noted that the most frequent disturbances (n=73) were caused by lower speed, lingering kayaks and canoes (33.3 percent) as opposed to motorboats (27.8 percent) conducting high speed passes. The seals flight reactions could be linked to a surprise factor by kayaks-canoes, which approach slowly, quietly and low on water making them look like predators. However, the authors note that once the animals were disturbed, there did not appear to be any significant lingering effect on the recovery of numbers to their pre-disturbance levels. In conclusion, the study showed that boat traffic at current levels has only a temporary effect on the haul-out behavior of harbor seals in the Métis Bay area.

In 2004, Johnson and Acevedo-Gutierrez (2007) evaluated the efficacy of buffer zones for watercraft around harbor seal haul-out sites on Yellow Island, Washington state. The authors estimated the minimum distance between the vessels and the haul-out sites; categorized the vessel types; and evaluated seal responses to the disturbances. During the course of the seven-weekend study, the authors recorded 14 human-related disturbances, which were associated with stopped powerboats and kayaks. During these

events, hauled out seals became noticeably active and moved into the water. The flushing occurred when stopped kayaks and powerboats were at distances as far as 453 and 1,217 ft (138 and 371 m) respectively. The authors note that the seals were unaffected by passing powerboats, even those approaching as close as 128 ft (39 m), possibly indicating that the animals had become tolerant of the brief presence of the vessels and ignored them. The authors reported that on average, the seals quickly recovered from the disturbances and returned to the haul-out site in less than or equal to 60 minutes. Seal numbers did not return to pre-disturbance levels within 180 minutes of the disturbance less than one quarter of the time observed. The study concluded that the return of seal numbers to pre-disturbance levels and the relatively regular seasonal cycle in abundance throughout the area counter the idea that disturbances from powerboats may result in site abandonment (Johnson and Acevedo-Gutierrez, 2007).

Vessel Strike

The probability of vessel and marine mammal interactions (*i.e.*, motorboat strike) occurring during the proposed research activities is unlikely due to the motorboat's slow operational speed, which is typically 2 to 3 knots (2.3 to 3.4 mph) and the researchers continually scanning the water for marine mammals presence during transit to the islands. Thus, NMFS does not anticipate that strikes or collisions would result from the movement of the motorboat.

Harbor Seal Pupping

During the harbor seal breeding (May-June) and molting (August) periods, ~66 percent of seals in Glacier Bay inhabit the primary glacial ice site and ~22 percent of seals are found in and adjacent to a group of islands in the southeast portion of Glacier

Bay. At the proposed study sites in 2016, only one pup was observed and in 2015, no pups were observed during project activities. Pups have been observed during aerial surveys during the pupping seasons (conducted during low tide), but in few numbers (see Table 4). NMFS does not anticipate that the proposed activities would result in separation of mothers and pups as pups are rarely seen at the study sites.

Table 4: Average and maximum counts of hauled out harbor seals at glaucous-winged gull study sites during harbor seal monitoring aerial surveys from 2007-2014 (Womble *unpublished data*).

Site	Average of Pup Count	StdDev of Pup Count	Max of Pup Count
Boulder Island	0.7	1.2	5
Flapjack Island	16.5	10.8	43
Geikie Rock	0.1	0.4	2
Lone Island	0.8	0.8	2
Grand Total	5.2	9.3	43

Marine Mammal Habitat

The main impact associated with the proposed activity will be temporarily elevated noise levels and human disturbance and the associated direct effects on marine mammals (*i.e.*, the potential for temporary abandonment of the site), previously discussed in this notice. NMFS does not anticipate that the proposed restoration activities would result in any permanent effects on the habitats used by the marine mammals in the proposed area, including the food sources they use (*i.e.*, fish and invertebrates). Based on the preceding discussion, NMFS does not anticipate that the proposed activity would have any habitat-related effects that could cause significant or long-term consequences for individual marine mammals or their populations. NMFS does not expect that the proposed activity would have any effects on marine mammal habitat and NMFS expects

that there will be no long- or short-term physical impacts to pinniped habitat in Glacier Bay, AK. The proposed activities will not result in any permanent impact on habitats used by marine mammals, including prey species and foraging habitat.

Summary

Based on the available data, previous monitoring reports from Glacier Bay NP, and studies described here, we anticipate that any pinnipeds found in the vicinity of the proposed project could have short-term behavioral reactions (*i.e.*, may result in marine mammals avoiding certain areas) due to noise and visual disturbance generated by: (1) motorboat approaches and departures and (2) human presence during gull research activities. We would expect the pinnipeds to return to a haul-out site within minutes to hours of the stimulus based on previous research (Allen *et al.*, 1985). Pinnipeds may be temporarily displaced from their haul-out sites, but we do not expect that the pinnipeds would permanently abandon a haul-out site during the conduct of the proposed research as activities are short in duration (30 min to up to two hours), and previous surveys have demonstrated that seals have returned to their haulout sites and have not permanently abandoned the sites.

NMFS does not anticipate that the proposed activities would result in the injury, serious injury, or mortality of pinnipeds. NMFS does not anticipate that strikes or collisions would result from the movement of the motorboat. The proposed activities will not result in any permanent impact on habitats used by marine mammals, including prey species and foraging habitat. The potential effects to marine mammals described in this section of the document do not take into consideration the proposed monitoring and mitigation measures described later in this document (see the “Proposed Mitigation” and

“Proposed Monitoring and Reporting” sections).

Estimated Take

This section includes an estimate of the number of incidental “takes” proposed for authorization pursuant to this IHA, which will inform both NMFS’ consideration of whether the number of takes is “small” and the negligible impact determination.

Take in the form of harassment is expected to result from these activities. Except with respect to certain activities not pertinent here, the MMPA defines "harassment" as: any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment).

As described previously in the Effects section, Level B Harassment is expected to occur and is proposed to be authorized in the numbers identified below. Based on the nature of the activity and the anticipated effectiveness of the mitigation measures, Level A Harassment is neither anticipated nor proposed to be authorized. The death of a marine mammal is also a type of incidental take. However, as described previously, no mortality is anticipated or proposed to be authorized to result from this activity.

All anticipated takes would be by Level B harassment, involving temporary changes in behavior. NMFS expects that the presence of Glacier Bay NP personnel could disturb animals hauled out and that the animals may alter their behavior or attempt to move away from the researchers.

Harbor seals may be disturbed when vessels approach or researchers go ashore for the purpose of monitoring gull colonies. Harbor seals tend to haul out in small numbers at study sites (2015-2016): Boulder Island – average 4.85 seals, Flapjack Island – average 11.22 seals, Geikie Rock – average 10.25 seals, and Lone Island average of 17.22 seals (see raw data from Tables 1 of the 2016 and 2015 Monitoring Report). Based on previous pinniped observations during gull monitoring (2015 and 2016) conducted by Glacier Bay NP, NMFS estimates that the research activities could potentially affect by Level B behavioral harassment 218 incidents of harassment to harbor seals over the course of the Authorization. This number was calculated by multiplying the average number of seals observed at each site (2015-2016) by five visits per site for a total of 218 incidents of harassment (Table 5). The highest number of annual visits to each gull study site will be five, therefore it is expected that individual harbor seals at a given site will be disturbed no more than five times per year.

Table 5. Level B takes by harassment by during NPS gull surveys.

Site proposed for survey	Average number of seals observed*	Number of proposed site visits	Incidents of harassments/Level B take
Boulder Island	4.85 seals	5	24.29
Flapjack Island	11.22 seals	5	56.11
Geikie Rock	10.25 seals	5	51.25
Lone Island	17.22 seals	5	86.1
	Total 43.5 (44 seals)		Total: 218 incidents of harassment

*Data from 2016 and 2015 NPS gull surveys.

There can be greater numbers of seals on the survey islands than what is detected by the NPS during the gull surveys. Aerial survey maximum counts show that harbor seals sometimes haul out in large numbers at all four locations (see Table 1 of the application). However, harbor seals hauled out at Flapjack Island are generally on the

southern end whereas the gull colony is on the northern end. Similarly, harbor seals on Boulder Island tend to haul out on the southern end while the gull colony is located and can be accessed on the northern end without disturbance. Aerial survey counts for harbor seals are conducted during low tide while ground and vessel surveys are conducted during high tide, which along with greater visibility during aerial surveys, may also contribute to why there are greater numbers of seals observed during the aerial surveys.

Potential Effects of Specified Activities on Subsistence Uses of Marine Mammals

Subsistence harvest of harbor seals by Alaska Natives is exempted from the MMPA's take prohibition (16 U.S.C. 1371(b)(1)); however, subsistence harvest of harbor seals has not been permitted in Glacier Bay NP since 1974 (Catton, 1995). The extensive post-breeding seasonal distribution of seals from Glacier Bay (Womble and Gende, 2013b) may expose seals to subsistence harvest outside of the park. Subsistence surveys and anthropological studies demonstrate that harbor seals may be harvested during all months; however, there are typically two distinct seasonal peaks for harvest of seals, which occur during spring and in autumn/early winter (de Laguna, 1972; Emmons, 1991). These time periods co-occur with the time period during which seals travel beyond the boundaries of Glacier Bay (Womble and Gende, 2013b). The level of subsistence harvest on seals from Glacier Bay/Icy Strait stock has not been quantified; however, subsistence reports from nearby communities have documented subsistence harvest (*e.g.*, Wolfe *et al.*, 2009). Due to the prohibition of subsistence harvest at the gull study sites and the temporary behavior disturbance of marine mammal disturbance caused by this project, we anticipate no impacts to subsistence harvest of marine mammals in the region.

Proposed Mitigation

In order to issue an incidental take authorization under section 101(a)(5)(D) of the MMPA, we must set forth the permissible methods of taking pursuant to such activity, and other means of effecting the least practicable adverse impact on such species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and the availability of such species or stock for taking for certain subsistence uses.

Glacier Bay NP has based the mitigation measures which they propose to implement during the proposed research, on the following: (1) protocols used during previous gull research activities as required by our previous authorizations for these activities; and (2) recommended best practices in Womble *et al.* (2013); Richardson *et al.* (1995); Pierson *et al.* (1998); and Weir and Dolman (2007).

To reduce the potential for disturbance from acoustic and visual stimuli associated with the activities Glacier Bay NP and/or its designees has proposed to implement the following mitigation measures for marine mammals:

- Perform pre-survey monitoring before deciding to access a study site;
- Avoid accessing a site where Steller sea lions are present;
- Perform controlled and slow ingress to the study site to prevent flushing harbor seals and select a pathway of approach to minimize the number of marine mammals harassed;
- Monitor for offshore predators at study sites. Avoid approaching the study site if killer whales (*Orcinus orca*) are observed. If Glacier Bay NP and/or its designees see predators in the area, they must not disturb the pinnipeds until the area is free of predators; and

- Maintain a quiet research atmosphere in the visual presence of pinnipeds.

Pre-Survey Monitoring

Prior to deciding to land onshore to conduct the study, the researchers would use high-powered image stabilizing binoculars from the watercraft to document the number, species, and location of hauled out marine mammals at each island. The vessels would maintain a distance of 328 to 1,640 ft (100 to 500 m) from the shoreline to allow the researchers to conduct pre-survey monitoring

Site Avoidance

If there are Steller sea lions are present, the researchers would not approach the island and would not conduct gull monitoring research.

Controlled Landings

The researchers would determine whether to approach the island based on type of animals present. Researchers would approach the island by motorboat at a speed of approximately 2 to 3 kns (2.3 to 3.4 mph). This would provide enough time for any marine mammals present to slowly enter the water without panic (flushing). The researchers would also select a pathway of approach farthest from the hauled out harbor seals to minimize disturbance.

Minimize Predator Interactions

If the researchers visually observe marine predators (*i.e.*, killer whales) present in the vicinity of hauled out marine mammals, the researchers would not approach the study site.

Noise Reduction Protocols

While onshore at study sites, the researchers would remain vigilant for hauled out marine mammals. If marine mammals are present, the researchers would move slowly and use quiet voices to minimize disturbance to the animals present.

Mitigation Conclusions

NMFS has carefully evaluated the applicant's proposed mitigation measures and considered a range of other measures in the context of ensuring that NMFS prescribes the means of affecting the least practicable impact on the affected marine mammal species and stocks and their habitat. Our evaluation of potential measures included consideration of the following factors in relation to one another:

- The manner in which, and the degree to which, the successful implementation of the measure is expected to minimize adverse impacts to marine mammal species or stocks;
- The proven or likely efficacy of the specific measure to minimize adverse impacts as planned; and
- The practicability of the measure for applicant implementation.

Any mitigation measure(s) prescribed by NMFS should be able to accomplish, have a reasonable likelihood of accomplishing (based on current science), or contribute to the accomplishment of one or more of the general goals listed below:

1. Avoidance or minimization of injury or death of marine mammals wherever possible (goals 2, 3, and 4 may contribute to this goal).
2. A reduction in the numbers of marine mammals (total number or number at biologically important time or location) exposed to received levels of pile driving, or other activities expected to result in the take

of marine mammals (this goal may contribute to 1, above, or to reducing harassment takes only).

3. A reduction in the number of times (total number or number at biologically important time or location) individuals would be exposed to received levels of pile driving, or other activities expected to result in the take of marine mammals (this goal may contribute to 1, above, or to reducing harassment takes only).
4. A reduction in the intensity of exposures (either total number or number at biologically important time or location) to received levels of pile driving, or other activities expected to result in the take of marine mammals (this goal may contribute to a, above, or to reducing the severity of harassment takes only).
5. Avoidance or minimization of adverse effects to marine mammal habitat, paying special attention to the food base, activities that block or limit passage to or from biologically important areas, permanent destruction of habitat, or temporary destruction/disturbance of habitat during a biologically important time.
6. For monitoring directly related to mitigation – an increase in the probability of detecting marine mammals, thus allowing for more effective implementation of the mitigation.

Based on our evaluation of the applicant's proposed measures, as well as other measures considered by NMFS, NMFS has preliminarily determined that the proposed mitigation measures provide the means of effecting the least practicable impact on marine

mammal species or stocks and their habitat, paying particular attention to rookeries, mating grounds, areas of similar significance, and on the availability of such species or stock for subsistence uses.

Proposed Monitoring and Reporting

Monitoring

In order to issue an incidental take authorization for an activity, section 101(a)(5)(D) of the Marine Mammal Protection Act states that we must set forth “requirements pertaining to the monitoring and reporting of such taking.” The Act’s implementing regulations at 50 CFR 216.104 (a)(13) indicate that requests for an incidental take authorization must include the suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and our expectations of the level of taking or impacts on populations of marine mammals present in the action area.

Glacier Bay NP submitted a marine mammal monitoring plan in section 13 of their Authorization application. NMFS may modify or supplement the plan based on comments or new information received from the public during the public comment period. Any monitoring requirement NMFS prescribes should improve our understanding of one or more of the following:

- Occurrence of marine mammal species in action area (*e.g.*, presence, abundance, distribution, density);
- Nature, scope, or context of likely marine mammal exposure to potential stressors/impacts (individual or cumulative, acute or chronic), through better understanding of: (1) Action or environment (*e.g.*, source characterization, propagation,

ambient noise); (2) Affected species (*e.g.*, life history, dive patterns); (3) Co-occurrence of marine mammal species with the action; or (4) Biological or behavioral context of exposure (*e.g.*, age, calving or feeding areas);

- Individual responses to acute stressors, or impacts of chronic exposures (behavioral or physiological);
- How anticipated responses to stressors impact either: (1) Long-term fitness and survival of an individual; or (2) Population, species, or stock;
- Effects on marine mammal habitat and resultant impacts to marine mammals; and
- Mitigation and monitoring effectiveness.

As part of its application, Glacier Bay NP proposes to conduct marine mammal monitoring during the present project, in order to implement the mitigation measures that require real-time monitoring. The researchers will monitor the area for pinnipeds during all research activities. Monitoring activities will consist of conducting and recording observations on pinnipeds within the vicinity of the proposed research areas. The monitoring notes would provide dates, location, species, the researcher's activity, behavioral state, numbers of animals that were alert or moved greater than one meter, and numbers of pinnipeds that flushed into the water.

The method for recording disturbances follows those in Mortenson (1996). Glacier Bay NP would record disturbances on a three-point scale that represents an increasing seal response to the disturbance (Table 6). Glacier Bay will record the time, source, and duration of the disturbance, as well as an estimated distance between the source and haul-out. NMFS would consider only responses falling into Levels 2 and 3 as

harassment under the MMPA, under the terms of this proposed authorization.

Table 6. Seal response to disturbance.

Level	Type of response	Definition
1	Alert	Seal head orientation or brief movement in response to disturbance, which may include turning head towards the disturbance, craning head and neck while holding the body rigid in a u-shaped position, changing from a lying to a sitting position, or brief movement of less than twice the animal's body length. Alerts would be recorded, but not counted as a 'take'.
2	Movement	Movements in response to the source of disturbance, ranging from short withdrawals at least twice the animal's body length to longer retreats over the beach, or if already moving a change of direction of greater than 90 degrees. These movements would be recorded and counted as a 'take'.
3	Flush	All retreats (flushes) to the water. Flushing into the water would be recorded and counted as a 'take'.

Glacier Bay NP has complied with the monitoring requirements under the previous authorizations. NMFS posted the 2016 report on our website at <http://www.nmfs.noaa.gov/pr/permits/incidental/research.htm> and the results from the previous Glacier Bay NP monitoring reports support our findings that the proposed mitigation measures required under the 2014 - 2016 Authorizations, provide the means of effecting the least practicable impact on the species or stock. During the last two years of this activity, approximately a third of all observed harbor seals have flushed in response to these activities (37 percent in 2015 and 36 percent in 2016). In 2016, of the 216 harbor seals that were observed: 77 flushed in to the water, 3 became alert but did not move >1 m, and 17 moved >1 m but did not flush into the water. On five occasions, harbor seals were flushed into the water when islands were accessed for gull surveys. In these instances, the vessel approached the island at very slow speed and most of the harbor seals flushed into the water at approximately 50-100 m. In 4 instances, fewer than 25 harbor seals were present, but in 1 instance, 41 harbor seals were observed flushing into the water when NPS first saw them as they rounded a point of land in kayaks accessing

Flapjack Island. In 5 instances, harbor seals were observed hauled out and not disturbed due to their distance from the survey areas. In 2015, of the 156 harbor seals that were observed: 57 flushed in to the water, 25 became alert but did not move >1 m, and zero moved >1 m but did not flush into the water. No pups were observed. On two occasions, harbor seals were observed at the study sites in numbers <25 and the islands were accessed for gull surveys. In these instances, the vessel approached the island at very slow speed and most of the harbor seals flushed into water at approximately 200 m (Geikie 8/5/15) and 280 m (Lone, 8/5/15). In one instance, (Lone, 6/11/15) NPS counted 20 harbor seals hauled out during our initial vessel-based monitoring, but once on the island, NPS observed 33 hauled out seals. When NPS realized the number of seals present, they ceased the survey and left the area, flushing 13 seals into the water.

Glacier Bay NP can add to the knowledge of pinnipeds in the proposed action area by noting observations of: (1) unusual behaviors, numbers, or distributions of pinnipeds, such that any potential follow-up research can be conducted by the appropriate personnel; (2) tag-bearing carcasses of pinnipeds, allowing transmittal of the information to appropriate agencies and personnel; and (3) rare or unusual species of marine mammals for agency follow-up. Glacier Bay NP actively monitors harbor seals at breeding and molting haul out locations to assess trends over time (*e.g.*, Mathews & Pendleton, 2006; Womble *et al.* 2010, Womble and Gende, 2013b). This monitoring program involves collaborations with biologists from the Alaska Department of Fish and Game, and the Alaska Fisheries Science Center. Glacier Bay NP will continue these collaborations and encourage continued or renewed monitoring of marine mammal species. Additionally, Glacier Bay NP would report vessel-based counts of marine

mammals, branded, or injured animals, and all observed disturbances to the appropriate state and federal agencies.

Reporting

Glacier Bay NP will submit a draft monitoring report to us no later than 90 days after the expiration of the Incidental Harassment Authorization, if issued. The report will include a summary of the information gathered pursuant to the monitoring requirements set forth in the Authorization. Glacier Bay NP will submit a final report to NMFS within 30 days after receiving comments on the draft report. If Glacier Bay NP receives no comments from NMFS on the report, NMFS will consider the draft report to be the final report.

The report will describe the operations conducted and sightings of marine mammals near the proposed project. The report will provide full documentation of methods, results, and interpretation pertaining to all monitoring. The report will provide:

1. A summary and table of the dates, times, and weather during all research activities.
2. Species, number, location, and behavior of any marine mammals observed throughout all monitoring activities.
3. An estimate of the number (by species) of marine mammals exposed to acoustic or visual stimuli associated with the research activities.
4. A description of the implementation and effectiveness of the monitoring and mitigation measures of the Authorization and full documentation of methods, results, and interpretation pertaining to all monitoring.

In the unanticipated event that the specified activity clearly causes the take of a

marine mammal in a manner prohibited by the authorization, such as an injury (Level A harassment), serious injury, or mortality (*e.g.*, vessel-strike, stampede, etc.), Glacier Bay NP shall immediately cease the specified activities and immediately report the incident to the Office of Protected Resources, NMFS and the Alaska Regional Stranding Coordinator. The report must include the following information:

- Time, date, and location (latitude/longitude) of the incident;
- Description and location of the incident (including water depth, if applicable);
- Environmental conditions (*e.g.*, wind speed and direction, Beaufort sea state, cloud cover, and visibility);
- Description of all marine mammal observations in the 24 hours preceding the incident;
- Species identification or description of the animal(s) involved;
- Fate of the animal(s); and
- Photographs or video footage of the animal(s) (if equipment is available).

Glacier Bay NP shall not resume its activities until NMFS is able to review the circumstances of the prohibited take. NMFS will work with Glacier Bay to determine what is necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. Glacier Bay NP may not resume their activities until notified by us via letter, email, or telephone.

In the event that Glacier Bay NP discovers an injured or dead marine mammal, and the lead researcher determines that the cause of the injury or death is unknown and the death is relatively recent (*i.e.*, in less than a moderate state of decomposition as we describe in the next paragraph), Glacier Bay NP will immediately report the incident to

the Office of Protected Resources, NMFS and the Alaska Regional Stranding Coordinator. The report must include the same information identified in the paragraph above this section. Activities may continue while we review the circumstances of the incident. We will work with Glacier Bay NP to determine whether modifications in the activities are appropriate.

In the event that Glacier Bay NP discovers an injured or dead marine mammal, and the lead visual observer determines that the injury or death is not associated with or related to the authorized activities (*e.g.*, previously wounded animal, carcass with moderate to advanced decomposition, or scavenger damage), Glacier Bay NP will report the incident to the incident to the Office of Protected Resources, NMFS and the Alaska Regional Stranding Coordinator within 24 hours of the discovery. Glacier Bay NP researchers will provide photographs or video footage (if available) or other documentation of the stranded animal sighting to us. Glacier Bay NP can continue their research activities.

Negligible Impact Analysis and Preliminary Determinations

NMFS has defined negligible impact as “an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival” (50 CFR 216.103). A negligible impact finding is based on the lack of likely adverse effects on annual rates of recruitment or survival (*i.e.*, population-level effects). An estimate of the number of takes, alone, is not enough information on which to base an impact determination. In addition to considering the authorized number of marine mammals that might be “taken” through harassment, NMFS considers other factors, such as the likely

nature of any responses (*e.g.*, intensity, duration), the context of any responses (*e.g.*, critical reproductive time or location, migration, etc.), as well as effects on habitat, the status of the affected stocks, and the likely effectiveness of the mitigation. Consistent with the 1989 preamble for NMFS' implementing regulations (54 FR 40338; September 29, 1989), the impacts from other past and ongoing anthropogenic activities are incorporated into these analyses via their impacts on the environmental baseline (*e.g.*, as reflected in the regulatory status of the species, population size and growth rate where known, ongoing sources of human-caused mortality, or ambient noise levels).

In making a negligible impact determination, we consider:

- The number of anticipated injuries, serious injuries, or mortalities;
- The number, nature, and intensity, and duration of Level B harassment;
- The context in which the takes occur (*e.g.*, impacts to areas of significance, impacts to local populations, and cumulative impacts when taking into account successive/contemporaneous actions when added to baseline data);
- The status of stock or species of marine mammals (*i.e.*, depleted, not depleted, decreasing, increasing, stable, impact relative to the size of the population);
- Impacts on habitat affecting rates of recruitment/survival; and
- The effectiveness of monitoring and mitigation measures to reduce the number or severity of incidental take.

For reasons stated previously in this document and based on the following factors, NMFS does not expect Glacier Bay NP's specified activities to cause long-term behavioral disturbance, abandonment of the haul-out area, injury, serious injury, or mortality:

1. The takes from Level B harassment would be due to potential behavioral disturbance. The effects of the research activities would be limited to short-term startle responses and localized behavioral changes due to the short and sporadic duration of the research activities.

2. The availability of alternate areas for pinnipeds to avoid disturbances from research operations. Anecdotal observations and results from previous monitoring reports also show that the pinnipeds returned to the various sites and did not permanently abandon haul-out sites after Glacier Bay NP conducted their research activities.

3. There is little potential for stampeding events or large-scale flushing events leading to injury, serious injury, or mortality. Researchers would not access the survey sites if Steller sea lions are present. Harbor seals are a species that do not stampede, but flush, and injury or mortality is not anticipated from flushing events. Researchers would approach study sites slowly to provide enough time for any marine mammals present to slowly enter the water without panic.

We do not anticipate that any injuries, serious injuries, or mortalities would occur as a result of Glacier Bay NP's proposed activities and we do not propose to authorize injury, serious injury, or mortality. Harbor seals may exhibit behavioral modifications, including temporarily vacating the area during the proposed gull research activities to avoid human disturbance. Further, these proposed activities would not take place in areas of significance for marine mammal feeding, resting, breeding, or pupping and would not adversely impact marine mammal habitat. Due to the nature, degree, and context of the behavioral harassment anticipated, we do not expect the activities to impact annual rates of recruitment or survival.

NMFS does not expect pinnipeds to permanently abandon any area surveyed by researchers, as is evidenced by continued presence of pinnipeds at the sites during annual gull monitoring. In summary, NMFS anticipates that impacts to hauled-out harbor seals during Glacier Bay NP's research activities would be behavioral harassment of limited duration (*i.e.*, up to two hours per visit) and limited intensity (*i.e.*, temporary flushing at most).

Based on the analysis contained herein of the likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of the proposed monitoring and mitigation measures, NMFS preliminarily finds that the total marine mammal take from the proposed activity will have a negligible impact on all affected marine mammal species or stocks.

Small Numbers

As noted above, only small numbers of incidental take may be authorized under section 101(a)(5)(D) of the MMPA for specified activities other than military readiness activities. The MMPA does not define small numbers and so, in practice, NMFS compares the number of individuals taken to the most appropriate estimation of the relevant species or stock size in our determination of whether an authorization is limited to small numbers of marine mammals.

As mentioned previously, NMFS estimates that Glacier Bay NP's activities could potentially affect, by Level B harassment only, one species of marine mammal under our jurisdiction. For harbor seals, this estimate is small (3 percent) relative of the Glacier Bay/Icy Strait stock of harbor seals (7,210 seals, see Table 2).

Based on the analysis contained herein of the proposed activity (including the

proposed mitigation and monitoring measures) and the anticipated take of marine mammals, NMFS preliminarily finds that small numbers of marine mammals would be taken relative to the population size of the affected species or stocks.

Impact on Availability of Affected Species or Stock for Taking for Subsistence Uses

Section 101(a)(5)(D) of the MMPA also requires us to determine that the taking will not have an unmitigable adverse effect on the availability of marine mammal species or stocks for subsistence use. There are no relevant subsistence uses of marine mammals implicated by this action. Glacier Bay NP prohibits subsistence harvest of harbor seals within the Park (Catton, 1995). Thus, NMFS has determined that the total taking of affected species or stocks would not have an unmitigable adverse impact on the availability of such species or stocks for taking for subsistence purposes.

Endangered Species Act (ESA)

Issuance of an MMPA authorization requires compliance with the ESA. No incidental take of ESA-listed species is proposed for authorization or expected to result from this activity. Therefore, NMFS has determined that formal consultation under section 7 of the ESA is not required for this action.

National Environmental Policy Act

In compliance with NOAA policy, the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321 *et seq.*), and the Council on Environmental Quality Regulations (40 CFR parts 1500-1508), NMFS preliminarily determined the issuance of the proposed IHA qualifies to be categorically excluded from further NEPA review. This action is consistent with categories of activities identified in CE B4 of the Companion Manual for NOAA Administrative Order 216-6A, which do not individually or

cumulatively have the potential for significant impacts on the quality of the human environment and we have not identified any extraordinary circumstances that would preclude this categorical exclusion.

Proposed Authorization

As a result of these preliminary determinations, NMFS proposes to issue an IHA to the NPS Glacier Bay NP for conducting gull monitoring and research activities from May 1 through September 30, 2017, provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated. The section contains a draft of the IHA itself. The wording contained in this section is proposed for inclusion in the IHA (if issued).

Glacier Bay NP and/or its designees (holders of the Authorization) are hereby authorized under section 101(a)(5)(D) of the Marine Mammal Protection Act (16 U.S.C. 1371(a)(5)(D)) to harass small numbers of marine mammals incidental to conducting monitoring and research studies on glaucous-winged gulls (*Larus glaucescens*) within Glacier Bay NP, Alaska.

1. This Authorization is valid from May 1 through September 30, 2017.

2. This Authorization is valid only for research activities that occur at the following locations: Boulder (58° 33' 18.08" N; 136° 1' 13.36" W); Lone (58° 43' 17.67" N; 136° 17' 41.32" W), and Flapjack (58° 35' 10.19" N; 135° 58' 50.78" W) Islands, and Geikie Rock (58° 41' 39.75" N; 136° 18' 39.06" W) in Glacier Bay, Alaska.

3. Species Authorized and Level of Takes

a. The taking, by Level B harassment only, is limited to 218 takes of the Pacific harbor seal (*Phoca vitulina*).

b. The taking by injury (Level A harassment), serious injury or death of any of the species listed in Condition 3(a) or the taking of any kind of any other species of marine mammal is prohibited and may result in the modification, suspension or revocation of this Authorization.

c. The taking of any marine mammal in a manner prohibited under this Authorization must be reported immediately to the Office of Protected Resources, NMFS.

4. General Conditions

A copy of this Authorization must be in the possession of Glacier Bay NP, its designees, and field crew personnel (including research collaborators) operating under the authority of this Authorization at all times.

5. Mitigation Measures

The Holder of this Authorization is required to implement the following mitigation measures:

a. Conduct pre-survey monitoring before deciding to access a study site. Prior to deciding to land onshore of Boulder, Lone, or Flapjack Islands or Geikie Rock, the Holder of this Authorization shall use high-powered image stabilizing binoculars before approaching at distances of greater than 500 m (1,640 ft) to determine and document the number, species, and location of hauled out marine mammals. The vessels shall maintain a distance of 328 to 1,640 ft (100 to 500 m) from the shoreline. If the Holder of the Authorization determines that any Steller sea lions (*Eumetopias jubatus*) are present at the study site, the Holder shall not access the island and will not conduct the study at that time.

b. Minimize the potential for disturbance by: 1) performing controlled and slow ingress to the study site to prevent a flushing; and 2) selecting a pathway of approach farthest from the hauled out harbor seals to minimize disturbance.

c. Monitor for offshore predators at the study sites and shall avoid research activities when killer whales (*Orcinus orca*) are present.

d. Maintain a quiet working atmosphere, avoid loud noises, and shall use hushed voices in the presence of hauled out pinnipeds.

6. Monitoring

a. NPS and/or its designees shall record the following:

i. Species counts (with numbers of adults/juveniles); and:

ii. Numbers of disturbances, by species and age, according to a three-point scale of intensity (Table 7) including:

Table 7. Seal response to disturbance.

Level	Type of response	Definition
1	Alert	Seal head orientation or brief movement in response to disturbance, which may include turning head towards the disturbance, craning head and neck while holding the body rigid in a u-shaped position, changing from a lying to a sitting position, or brief movement of less than twice the animal's body length. Alerts would be recorded, but not counted as a 'take'.
2	Movement	Movements in response to the source of disturbance, ranging from short withdrawals at least twice the animal's body length to longer retreats over the beach, or if already moving a change of direction of greater than 90 degrees.
3	Flush	All retreats (flushes) to the water.

iii. Information on the weather, including the tidal state and horizontal visibility.

b. The observer shall note observations of marked or tag-bearing pinnipeds or carcasses, as well as any rare or unusual species of marine mammal.

c. The observer shall note the presence of any offshore predators (date, time, number, and species).

7. Reporting

The holder of this Authorization is required to:

a. Draft Report: Submit a draft monitoring report to the Office of Protected Resources, NMFS within 90 days after the Authorization expires. NMFS shall review the Draft Report which is subject to review and comment by NMFS. Glacier Bay NP must address any recommendations made by NMFS in the Final Report prior to submission to NMFS.

b. Final Report: Glacier Bay shall prepare and submit a Final Report to NMFS within 30 days following resolution of any comments on the draft report from NMFS.

8. Reporting Injured or Dead Marine Mammals

In the unanticipated event that the specified activity clearly causes the take of a marine mammal in a manner prohibited by the authorization, such as an injury (Level A harassment), serious injury, or mortality (*e.g.*, vessel-strike, stampede, etc.), The NPS' Glacier Bay NP and/or its designees shall immediately cease the specified activities and immediately report the incident to the Office of Protected Resources, NMFS, and the Alaska Regional Stranding Coordinator. The report must include the following information:

- Time, date, and location (latitude/longitude) of the incident;
- Description and location of the incident (including water depth, if applicable);

- Environmental conditions (*e.g.*, wind speed and direction, Beaufort sea state, cloud cover, and visibility);
- Description of all marine mammal observations in the 24 hours preceding the incident;
- Species identification or description of the animal(s) involved;
- Fate of the animal(s); and
- Photographs or video footage of the animal(s) (if equipment is available).

Glacier Bay NP shall not resume its activities until NMFS is able to review the circumstances of the prohibited take. NMFS shall work with Glacier Bay NP to determine what is necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. Glacier Bay NP may not resume their activities until notified by us via letter, email, or telephone.

In the event that Glacier Bay NP discovers an injured or dead marine mammal, and the marine mammal observer determines that the cause of the injury or death is unknown and the death is relatively recent (*i.e.*, in less than a moderate state of decomposition as we describe in the next paragraph), Glacier Bay NP shall immediately report the incident to the Office of Protected Resources, NMFS, and the Alaska Regional Stranding Coordinator. The report must include the same information identified in the paragraph above this section. Activities may continue while NMFS reviews the circumstances of the incident. NMFS would work with Glacier Bay NP to determine whether modifications in the activities are appropriate.

In the event that Glacier Bay NP discovers an injured or dead marine mammal, and the lead visual observer determines that the injury or death is not associated with or

related to the authorized activities (*e.g.*, previously wounded animal, carcass with moderate to advanced decomposition, or scavenger damage), Glacier Bay NP shall report the incident to the Office of Protected Resources, NMFS, and the Alaska Regional Stranding Coordinator within 24 hours of the discovery. Glacier Bay NP personnel shall provide photographs or video footage or other documentation of the stranded animal sighting to us. Glacier Bay NP can continue their survey activities while NMFS reviews the circumstances of the incident.

Request for Public Comments

NMFS requests comments on our analysis, the draft authorization, and any other aspect of the Notice of Proposed IHA for Glacier Bay's project activities in AK. Please include with your comments any supporting data or literature citations to help inform our final decision on the NPS request for an MMPA authorization.

Dated: March 2, 2017.

Donna S. Wieting,

Director, Office of Protected Resources,

National Marine Fisheries Service.

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